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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,883	10/28/2003	Hiroyuki Kobayashi	P23971	4020
7055	7590	08/12/2005		
GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			EXAMINER SMITH, PHILIP ROBERT	
			ART UNIT 3739	PAPER NUMBER

DATE MAILED: 08/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/693,883

Applicant(s)

KOBAYASHI, HIROYUKI

Examiner

Philip R. Smith

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 3 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14 and 15 is/are rejected.
- 7) ☒ Claim(s) 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/28/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Election of Species***

[01] Applicant has elected the species of claim 2 and withdrawn claim 3. The election was made with traverse because Applicant contends that a search of both of the identified species would be substantially coextensive, and there would be no serious burden on the Examiner to examine both species.

[02] The elections of species requirement has been reconsidered but will not be withdrawn. The burden is demonstrated by the separate subclasses which would be searched in accordance with the different species of "brightness adjuster."

[02a] A brightness adjuster which manipulates the output of the light source (claim 2) would be classified in 600/180 - endoscope ...having imaging and illumination means ... having a light source... with light intensity control.

[02b] A brightness adjuster which manipulates the exposure time of an image sensor (claim 3) would be classified in 600/118 - endoscope ...with control or monitoring of endoscope functions.

[03] For this reason, the election of species requirement in the Office action of 6/22/2005 is consistent with the Office policy set forth in MPEP §803.

***Claim Rejections - 35 USC § 103***

[04] The text of those sections of Title 35, U.S. Code The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this

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Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

[05] Claims 1-2, 4-5, 7, 9-12 & 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe (6,475,141) in view of Deng (6,765,619).

[06] *With regard to claims 1 & 14-15:* Abe discloses an electronic endoscope apparatus having a video-scope with an image sensor ("CCD 14," 4/59) and a video-processor ("processor device 12," 4/58), comprising:

[06a] a light source ("light source device," 1/45) that radiates light for illuminating a subject;

[06b] a pixel luminance detector that detects a luminance level of each pixel in a plurality of pixels, that forms a subject image displayed on a display ("...displays an image of an observed object on a monitor by applying signal-processing with a processor device or the like," 1/17-22), in accordance with image-pixel signals read from said image sensor;

[06c] a division setter (comprising components of "DSP (Digital Signal Processor) 20," "photometric part 21," "microcomputer 23," and "memory 24," 5/1-13) that divides the subject image into a plurality of blocks (photometric area pattern data," 5/13) composed of given pixels.

[06d] an average block luminance calculator ("photometric part (luminance

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information detecting part) 21 which measures the light receiving state (brightness, luminance of an image) by using an adding register or the like on the basis of the separated photometric areas," 5/5-8) that calculates a plurality of average block-luminance-levels, each of which indicates a substantial average-luminance-level of the corresponding block, the average block-luminance-levels being calculated from a plurality of luminance levels of pixels arranged in the corresponding block;

[06e] a representative luminance calculator ("microprocessor 23") that calculates a representative luminance level ("total light receiving state," 6/20-26) indicating a brightness of the subject image;

[06f] a brightness adjuster ("control signal for controlling the brightness on the basis of the light receiving state," 6/32-35) that adjusts the brightness of the subject image in accordance with the representative luminance level.

[07] Abe does not disclose a peak-luminance determiner that compares the average block-luminance-levels with each other to determine a substantially maximum average block-luminance-level from the plurality of average block-luminance-levels as a peak luminance level.

[08] Deng discloses the following in 4/58-5/33:

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FIGS. 5a-5c illustrates 3 statistical methods that can be used by the controller to determine if a region has reached the preset saturation ceiling. FIG. 5a illustrates the peak value method. Here, the exposure controller 120 is looking for at least one pixel 502 that has a saturation level that is equal to or higher than the preset saturation ceiling 500. When this condition occurs, the exposure controller 120 will instruct the memory controller 128 to stop writing subsequent digital image signals from this region of photodetectors into the memory unit 132.

FIG. 5b illustrates the average value method. The exposure controller 120 calculates the average luminance value 510 of all the photodetectors in one region. If this average luminance value is higher than an average value 512, the exposure controller 120 will instruct the memory controller 128 to stop writing subsequent digital image signals from this region of photodetectors into the memory unit 132...

It may be noticed that each of these statistical methods if used alone may not produce the best statistical results and therefore the best image exposure. For instance, with the peak value method, a very focused bright spot in a region may force a few pixels to reach the preset saturation ceiling very quickly while the rest of the pixels in the region are underexposed or not be exposed at all. However, if an average luminance value for the region was also calculated, it may become obvious that a bright spot exists and an adjustment in the exposure time made to compensate. An ordinary person skilled in this art may be able to determine the best combination of statistical methods to obtain the most reliable statistical method.

[09] At the time of the invention, it would have been obvious to a person of ordinary skill in the art that the average block luminance calculator disclosed by Abe be accompanied by the peak luminance detector disclosed by Deng ("peak value method"); and furthermore, that the representative luminance calculator disclosed by Abe be modified to include the capabilities described by Deng ("exposure controller 120"). Deng provides motivation to a skilled artisan to "obtain the most reliable statistical method" and therefore the "best image exposure" by combining the "peak value method" and the "average value method."

[10] *With regard to claim 2:* Abe discloses in 6/28-30 that the brightness adjuster adjusts an amount of light radiated from said light source toward the subject so as to maintain a proper brightness.

[11] *With regard to claim 4-5:* Abe in view of Deng discloses a division setter in which,

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for example, seven blocks are differentiated from one another. Peak luminance levels and average luminance levels are calculated respectively for each region. In Abe's invention, the central block ("4," Fig. 2a-2c) is surrounded by peripheral blocks ("1," "2," "3," "5," "6," & "7") which may accurately be nominated a 'peak-metering area around a center portion of the subject image', given that the peak luminance levels are respectively calculated. Any or all of the peripheral blocks which have been shown to compose an 'area around a center portion of the subject image' may accurately be nominated an 'average-metering area... including at least a peripheral portion of the subject image' given that their average luminance levels are respectively calculated. It has already been shown that Deng suggest that the representative luminance level is calculated in accordance with the measured peak luminance levels and average luminance levels.

- [12] *With regard to claims 7 & 9:* As shown above, any particular combination of the seven blocks disclosed by Abe may be given a name; and further, said particular combination has an average luminance level and peak luminance level measured in accordance with the blocks which compose it. Therefore, Abe in view of Deng shows a first peak metering area in which a first peak luminance level is measured, a second peak metering area in which a second peak luminance level is measured, and an average metering area in which an average luminance level is measured, each in accordance with the blocks that compose the respective areas. It has been shown that the representative luminance calculator calculates the representative luminance level in accordance with the measured average and

peak values of the respective blocks.

- [13] *With regard to claims 6 & 8:* In the act of obtaining a representative luminance level, Abe in view of Deng discloses the use of weighted coefficients to lend preferential weight to certain blocks.
- [14] *With regard to claims 10-11:* The blocks disclosed by Abe are each different from at least one other block with regard to their size or number of pixels. This is apparent from Figures 2a-2c. Deng also discloses a division setter that divides the subject image into a plurality of blocks ("multiple regions such as 200, 202, 204, 206," 4/45-47). They appear distinctly as quadrants in Figure 2; Deng is careful to note, however, that "these regions need not be the same size or shape," (4/47). It is clear from Abe's and Deng's disclosures that the blocks' size, shape, and degree of uniformity are left to the discretion of the skilled artisan to whom the specification is directed.
- [15] *With regard to claim 12:* As shown above, the blocks may differ in their number of pixels, and names such as 'first peak-metering area' and 'second peak-metering area' may be arbitrarily assigned to any particular combination of blocks.

***Allowable Subject Matter***

- [16] Claim 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
- [17] The prior art discloses methods for preventing a highly reflective treatment tool



from 'blacking out' an image. Buchin (5,475,420), for example, compares the average luminance level of a block to the average of the average luminance levels for all the blocks in order to determine the presence of a bright spot. Deng hints that the proper combination of average-metering and peak-metering will prevent bright spots from corrupting an image. However, there is no disclosure in the prior art of a peak metering area being set so as to exclude those regions which are found to include a treatment tool. Abe in view of Deng does not disclose a treatment tool detector that detects the use of a treatment tool utilizing a treatment tool tube provided in said video-scope, or a peak metering-area setter that sets the peak metering-area so as to exclude a tool displaying area.

### ***Conclusion***

- [18] The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Buchin (5,475,420) discloses an image processor which utilizes a division setter that sets quadrants or concentric annular regions in order to control brightness. Ozawa (6,080,104) discloses peak and average value detection in the form of histogram analysis in order to control brightness. Nakamura (6,914,630) discloses a camera with multiple simultaneous shutter speeds; an average luminance level is used to control the length of the low speed shutter, and peak luminance the high speed shutter.
- [19] Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip R Smith whose telephone number is (571) 272 6087 and whose email address is philip.smith@uspto.gov. The examiner can

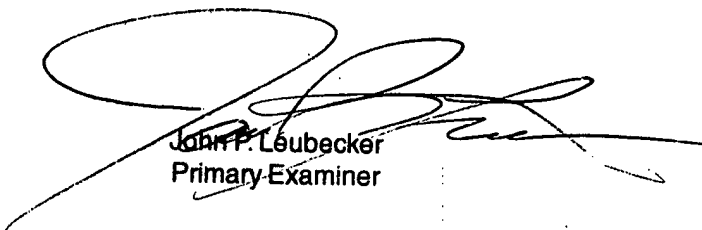
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normally be reached between 9:00am and 5:00pm.

[20] If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda Dvorak can be reached on (571) 272 4764.

[21] Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

prs

  
John P. Leubecker  
Primary Examiner